

The Requirement for a New Joint Operating Concept

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14. ABSTRACT The global operational environment appears to be transitioning from a post-Cold War era of unipolarity to one of bipolarity between the United States and China. At the same time, emerging technology is rapidly evolving the very character of conflict itself. However, despite the return of great power competition and the evolving character of conflict, the Joint Force finds itself alarmingly devoid of a joint operating concept sufficient to ensure common principles and unity of effort across the Joint Force. The Joint Force must adopt a new joint operating concept in order to defeat China in conflict. This paper explains the evolving character of 21 st century conflict and associated requirement for a newfound level of joint synchronization. It explores the need for cross-domain synergy to offset the Joint Force's emerging relative combat power disadvantage as China races towards qualitative parity. Finally, it deconstructs the Chinese strategy of System Destruction Warfare and assesses the corresponding threat it poses to the Joint Force achieving cross-domain synergy.					
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Paper Abstract

The global operational environment appears to be transitioning from a post-Cold War era of unipolarity to one of bipolarity between the United States and China. At the same time, emerging technology is rapidly evolving the very character of conflict itself. However, despite the return of great power competition and the evolving character of conflict, the Joint Force finds itself alarmingly devoid of a joint operating concept sufficient to ensure common principles and unity of effort across the Joint Force. The Joint Force must adopt a new joint operating concept in order to defeat China in conflict. This paper explains the evolving character of 21st-century conflict and associated requirement for a newfound level of joint synchronization. It explores the need for cross-domain synergy to offset the Joint Force's emerging relative combat power disadvantage as China races towards qualitative parity. Finally, it deconstructs the Chinese strategy of System Destruction Warfare and assesses the corresponding threat it poses to the Joint Force achieving cross-domain synergy.

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The global operational environment appears to be transitioning from a post-Cold War era of unipolarity to one of bipolarity between the United States and China. Indeed, the 2018 National Defense Strategy (NDS) clearly asserts that “Inter-state strategic competition, not terrorism, is now the primary concern in U.S. national security.”¹ At the same time, emerging technology is rapidly evolving the very character of conflict itself. However, despite the return of great power competition and the evolving character of conflict, the Joint Force finds itself alarmingly devoid of a joint operating concept sufficient to ensure common principles and unity of effort across the Joint Force.

The Joint Force must adopt a new joint operating concept in order to defeat China in conflict. A new joint operating concept is necessary because 21st-century conflict requires a newfound level of joint synchronization, defeating China in conflict requires cross-domain synergy, and the Chinese strategy aims to indirectly defeat the Joint Force center of gravity (COG) by attacking command and control. One could argue that the current joint operating concept is sufficient given a Joint Force Commander’s (JFC) extensive authority to unify and synchronize the Joint Force. However, the Joint Force cannot rely on the JFC for joint synchronization because there is a significant time gap between the onset of conflict and the point at which a JFC and supporting headquarters reach full operational capability (FOC). If the Joint Force does not adopt a new, unifying joint operating concept, then it risks setting the conditions for China to eclipse the capability of the Joint Force in the 21st-century global operational environment.

¹ *Summary of the 2018 National Defense Strategy of the United States of America*, (2018), 1.

BACKGROUND

Doctrine provides a common philosophy, a common language, a common purpose, and unity of effort across the Joint Force.² Doctrine is essential to the integration of combat power through its provision of a framework for the integration of diverse materiel and manpower to achieve operational objectives.³ Indeed, “Ineffective doctrine can negate all the advantages offered by superior equipment and fighting men: as the history of armored warfare suggests, the doctrinal innovation of massing even modestly capable armored elements and using them as part of combined-arms teams made an operational difference that could not be emulated or countered even by technically superior armored forces when employed in penny packets of bereft of combined-arms support.”⁴

At present, joint doctrine directs the execution of joint operations through unified action. According to Joint Publication 1, “Unified action synchronizes, coordinates, and/or integrates Joint, single-service, and multinational operations with the operations of other US government departments and agencies, nongovernmental organizations (NGOs), intergovernmental organizations (IGOs) (e.g., the United Nations), and the private sector to achieve unity of effort.”⁵ Unfortunately, the concept of unified action is insufficient for 21st-century conflict against a revisionist power and revising joint doctrine is a prohibitively lengthy process.

Joint concepts represent a means to integrate joint solutions to operational problems which are emerging faster than joint doctrine can evolve. Chairman of the Joint Chiefs of Staff Instruction (CJCSI) 3010.02E provides guidance on joint concepts. Joint concepts

² *Joint Publication 1: Doctrine for the Army Forces of the United States*, (12 Jul 2017), I-1.

³ Ashley Tellis, Christopher Layne, Melissa McPherson, *Measuring National Power in the Postindustrial Age*, (Rand Cooperation, 1 Jan 2000), 149.

⁴ *Ibid.*

⁵ *Joint Publication 1*, II-9.

propose new methods for the Joint Force to mitigate gaps and vulnerabilities in existing approaches given existing equipment and a defined operational environment.⁶ Unlike doctrine, joint concepts are not authoritative.⁷ The transition of joint concepts into joint doctrine requires rigorous testing through realistic training scenarios to fully understand the practicality and any unintended second or third order effects.⁸ Regardless of their lack of authority, joint concepts represent the most expeditious means of bridging a doctrinal gap and the first step in developing new or revising existing joint doctrine.

The Capstone Concept for Joint Operations: Joint Force 2020 (CCJO) was formally introduced to the Joint Force in 2012 in recognition of the changing global operational environment, evolving character of conflict, and emerging joint doctrine gaps.⁹ This document, an extension of the Joint Operational Access Concept (JOAC), provides a vision for 21st-century joint operations and an overarching concept under which mission-specific joint concepts reside.¹⁰ The CCJO and JOAC define the five domains as air, land, maritime, space, and cyberspace and argue that cross-domain synergy is essential to the success of the Joint Force in 21st-century conflict. According to the JOAC, cross-domain synergy is “The complementary vice merely additive employment of capabilities in different domains such that each enhances the effectiveness and compensates for the vulnerabilities of the others-to establish superiority in some combination of domains that will provide the freedom of action required by the mission.”¹¹ Unfortunately, the CCJO and JOAC stop short of providing an operational framework or specific conceptual solutions necessary to achieve cross-domain

⁶ *Chairman of the Joint Chiefs of Staff Instruction 3010.02E*, (17 Aug 2016), A-1.

⁷ *Ibid*, A-3.

⁸ *Ibid*, A-1.

⁹ *Capstone Concept for Joint Operations: Joint Force 2020*, (10 Sep 2012), 1.

¹⁰ *Ibid*.

¹¹ *Joint Operational Access Concept (JOAC)*, (17 Jan 2012), forward.

synergy. In fact, and perhaps more alarming, the very concept of cross-domain synergy lacks consensus across the Joint Force.¹² As a result of the joint concept's lack of granularity and enduring dissonance across the services, disparate service future operating concepts began to emerge.

The Army and Marine Corps initiated development of Multi-Domain Battle (MDB) as a future operating concept in 2016. In 2018, and in newfound partnership with the Air Force, MDB evolved into Multi-Domain Operations (MDO).¹³ MDO, like the CCJO, identifies five domains and assumes that a future adversary contests all five domains. Central to the concept of MDO, as with the CCJO, is the idea that cross-domain synergy enables the convergence of effects from multiple domains and that those effects are greater than the sum of their parts.¹⁴ MDO goes farther than the joint concept and provides an operational framework and theoretical solutions (compete, penetrate, dis-integrate, exploit and re-compete) for the problems inherent to 21st-century conflict. The MDO framework, identified in Figure 1, successfully coalesces Army, Marine Corps, and Air Force operational frameworks.¹⁵ More recently, the Navy initiated development on a future operating concept for maritime conflict.

¹² *Cross-Domain Synergy in Joint Operations: Planners Guide*, (14 Jan 2016), preface.

¹³ Sydney Freedberg, "A Wider Army: Army Revises Multi-Domain Battle with Air Force Help," *Breaking Defense* (12 Oct 2017).

¹⁴ *TRADOC Pamphlet 525-3-1: The U.S. Army in Multi-Domain Operations 2028*, (6 Dec 18), 20.

¹⁵ David Perkins, "Multidomain Battle: Converging Concepts toward a Joint Solution," *Joint Force Quarterly* 88 (1st Quarter 2018), 56.

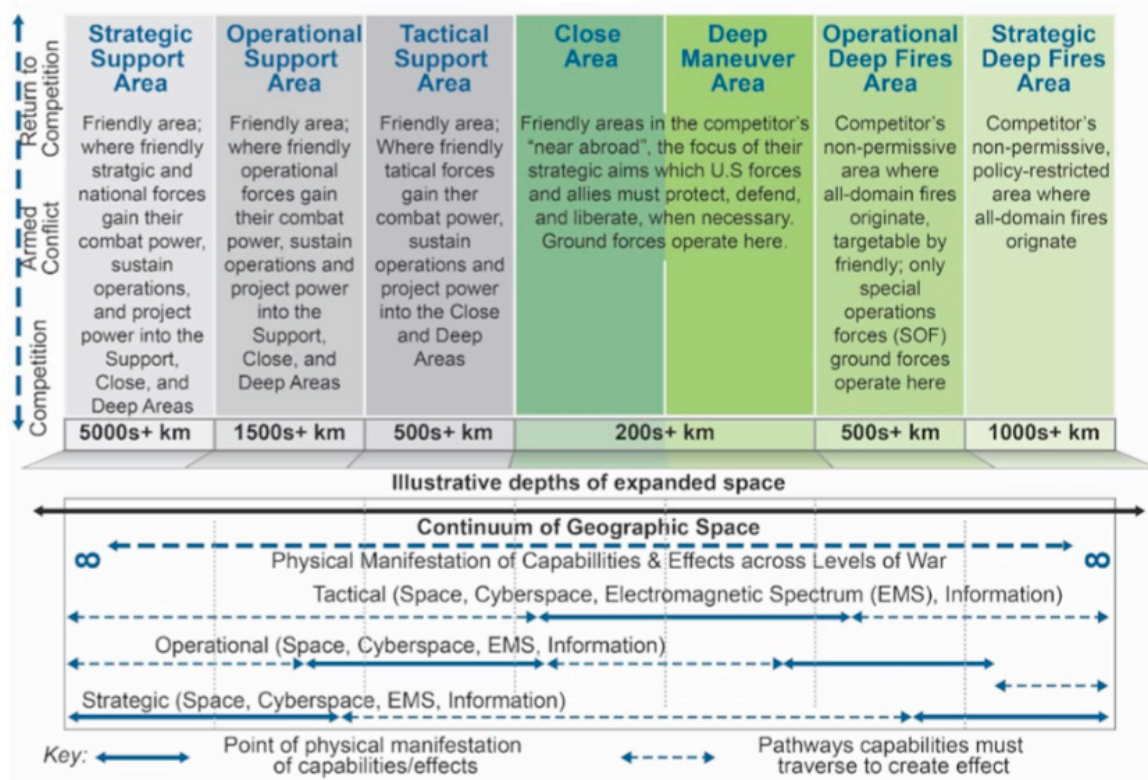


Figure 1: MDO Operational Framework. Source: TRADOC Pamphlet 525-3-1: *The U.S. Army in Multi-Domain Operations 2028*, (6 Dec 2018), 8.

The Navy initiated development of Distributed Maritime Operations (DMO) as an operating concept for 21st-century maritime conflict in 2018. The Navy formally introduced DMO in, “Design for Maintaining Maritime Superiority 2.0.” DMO remains an unreleased concept which evolved from Vice Admiral Thomas Rowden’s concept of Distributed Lethality (DL) published in 2017. DMO, like DL, proposes an operating concept which leverages increased warship offensive and defensive capabilities, dispersed formations, and distributed fires to achieve local sea control at a particular time and place.¹⁶ DMO, unlike the CCJO and MDO, defines the domains as air, surface, subsurface and cyber.¹⁷ DMO and current Navy doctrine both lack an operational framework for comparison to the MDO

¹⁶ Thomas Rodwen, “Distributed Lethality,” *Surface Force Strategy: Return to Sea Control*, (25 Jan 2017), 8-11.

¹⁷ Christopher H. Popa, *Distributed Maritime Operations and Unmanned Systems Tactical Employment*, (Naval Post Graduate School, Monterey California, Jun 2018), 7.

operational framework. Consequently, on the precipice of the return to great power competition, the Joint Force finds itself with a combination of disparate operating concepts insufficient to achieve cross-domain synergy in 21st-century conflict.

THE EVOLVING CHARACTER OF CONFLICT

21st-century conflict requires a newfound level of joint synchronization because of an exponential increase in the number of domain interfaces and the ability for future adversaries to contest all domains. The requirement for joint synchronization in conflict has existed for thousands of years. Indeed, the Peloponnesian War witnessed the execution of military operations in both land and maritime domains. Over time technological advances enabled the emergence of new domains and eventually led to the five 21st century domains of land, air, maritime, space, and cyberspace. Between each domain resides a domain interface. The introduction of space and cyberspace domains increased the number of these interfaces from three to ten. Figure 2 offers a conceptual illustration of 20th vice 21st-century domains and domain interfaces.

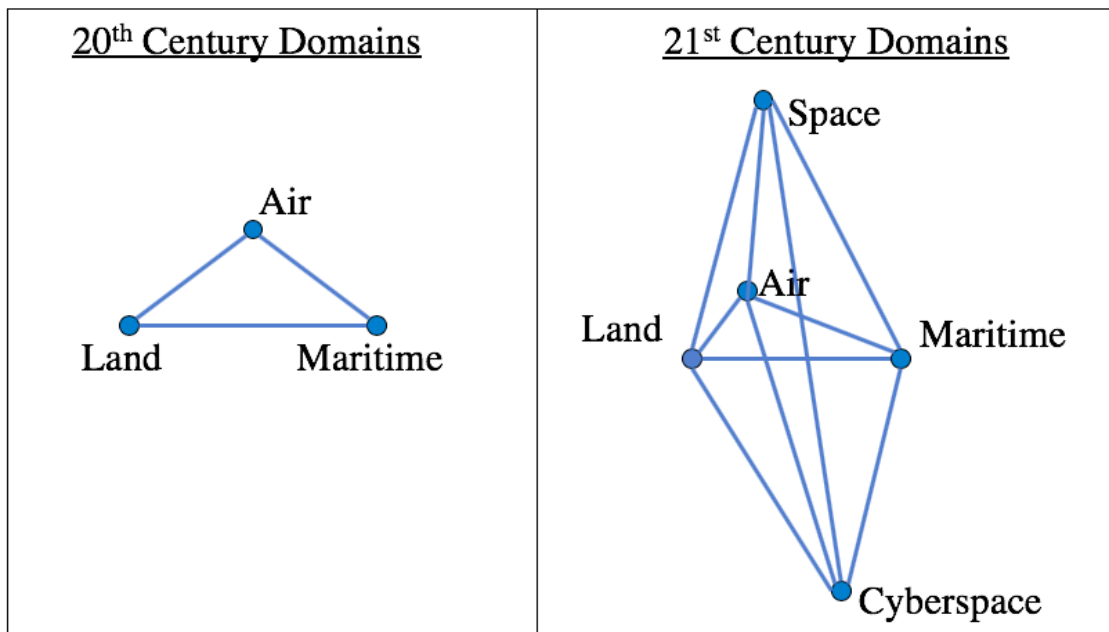


Figure 2: Conceptual Illustration of Domains and Domain Interfaces

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Domain interfaces represent a boundary of sorts along which coordination and synchronization must occur. In 20th-century conflict, three domains interacted with one another across only three domain interfaces. Yet, even with only three domain interfaces, coordinating and synchronizing cross-domain operations was a persistent challenge. Friction in air-to-surface fires integration during Operation Desert Storm illustrates the challenges in coordinating and synchronizing across domain interfaces. General Charles A. Horner, the Joint Force Air Component Commander (JFACC) in Desert Storm, discusses some of his challenges:

I had trouble with the FSCL [Fire Support Coordination Line] placement. For the first five weeks, the FSCL was the border with Saudi Arabia. At one point after the ground war started, the FSCL was [moved to a position] well north of the Tigris River, yet all the Iraqi army was on the interstate highway between Kuwait City and Basra approaching the river from the south, making the river an ideal FSCL....The Iraqi army was getting across the river, giving them a free ride since we [the air component forces] had to attack under close air support rules with no FACs [Forward Air Controllers] in the area.¹⁸

The introduction of seven new domain interfaces in 21st-century conflict makes the challenge of synchronizing across domain interfaces exponentially more difficult. The emerging reality of universally contested domains only further complicates the issue.

The CCJO and JOAC assume that future adversaries can contest every domain. This represents a significant change for the Joint Force which, for decades, enjoyed uncontested supremacy across all domains other than land. Given uncontested domains, the Joint Force

¹⁸ Charles Horner, quoted in John Horner, *Fire Support Coordination Measures: By the Numbers*, (School of Advanced Air Power Studies, Maxwell AFB, Jun 1999), 7.

merely had to deconflict friendly elements in adjacent domains and synchronize converging effects in the land domain. For example, deconflicting aircraft and surface-to-surface fires by elevation in the air domain in order to converge a combination of artillery and tactical air fires in the land domain. Universally contested domains make joint synchronization far more difficult. The Joint Force must now fight for windows of superiority or supremacy in every domain and, resultantly, coordinate and synchronize converging effects in each of the five domains. Figure 3 below illustrates the additional complexity created when adversaries can contest all domains.

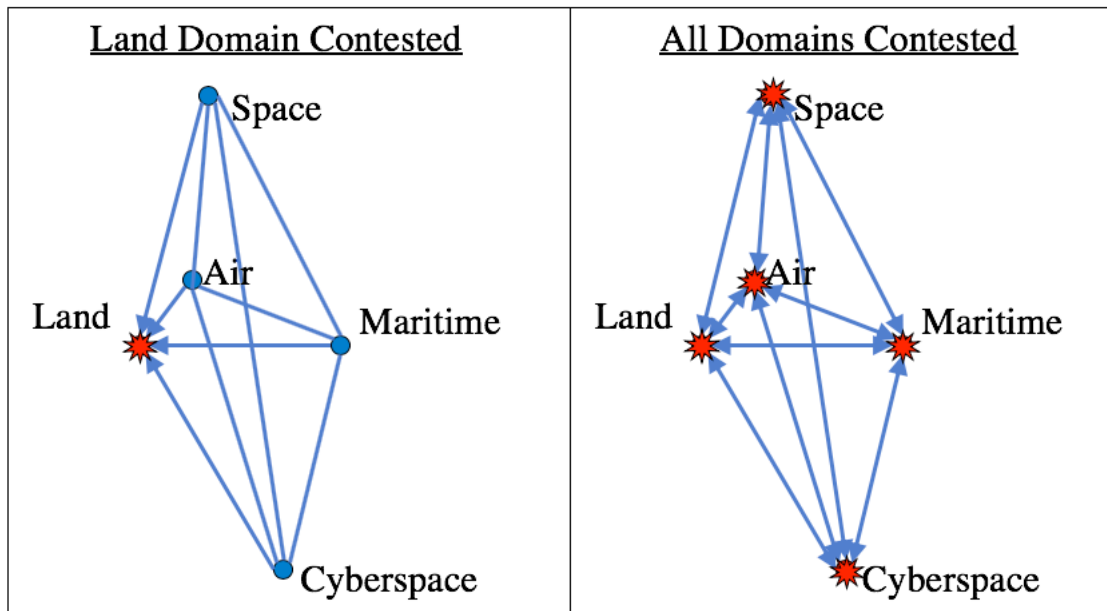


Figure 3: Conceptual Illustration of Contested Domains

Operation Husky during World War II demonstrates the manifestation of additional complexity given universally contested domains. Operation Husky was the Allied operation to seize and secure Sicily in 1943. During the operation, 7th Army activated its airborne reserve but failed to sufficiently coordinate or synchronize the mission across the entirety of the Joint Force.¹⁹ German Luftwaffe conducted persistent bombing operations during the

¹⁹ Carlo D'Este, *Bitter Victory: The Battle for Sicily, 1943*, (Harper Collins, New York, 1988), 307.

initial days of Operation Husky and immediately prior to the uncoordinated airborne operation.²⁰ Consequently, Allied land and naval forces mistook the airborne operation for another German Luftwaffe raid and engaged the friendly element with catastrophic anti-aircraft fire.²¹ All told, the friendly fire shot down twenty-three Allied planes and killed over 121 service members.²²

In this instance, the condition of a contested air domain created a requirement to converge effects from the land and maritime domains in the air domain. The convergence of cross-domain effects required coordination and synchronization across the Joint Force which failed to occur. If the condition of the air domain was uncontested, as the Joint Force is accustomed to today, then the requirement to converge land and maritime effects in the air domain dissolves and, along with it, the associated requirement for coordinating and synchronizing those effects. Admittedly, the Joint Force requirement for adjacent unit deconfliction (i.e., separating artillery and tactical air by elevation) remains regardless of domain condition, however, that is far less complex to coordinate and synchronize than the convergence of cross-domain effects to alter an enemy-based domain condition.

The exponential increase in the number of domain interfaces and the ability for future adversaries to contest all domains requires a newfound level of Joint synchronization in 21st-century conflict. At the same time as the complexity of conflict is increasing, the Joint Force's historic relative combat power advantage is waning. Indeed, attaining cross-domain synergy, impossible without an unprecedented level of Joint synchronization, is now decisive for the Joint Force to defeat China in conflict.

²⁰ D'Este, *Bitter Victory: The Battle for Sicily, 1943*, 308.

²¹ Ibid.

²² Ibid.

THE REQUIREMENT FOR CROSS-DOMAIN SYNERGY

Defeating China in conflict requires cross-domain synergy because China narrowed the qualitative gap between itself and the Joint Force while retaining a quantitative advantage. China is modernizing its military from a force of sheer size to one of high quality. “China’s military modernization efforts have emphasized quality over quantity, in both equipment and personnel. Total numbers of platforms (e.g., surface vessels, tanks, fighter aircraft) have declined from their 1990s levels in many categories, but the PLA’s overall capabilities have increased.”²³ Perhaps more alarming, China’s qualitative modernization efforts deliberately target capability developments which limit the technological advantages of the Joint Force.²⁴ China’s airpower modernization over the past two decades offers a dramatic example of China closing the qualitative gap with the Joint Force.

In 1996, China possessed a total of twenty-four fourth-generation fighters.²⁵ By 2015, China possessed over seven hundred fourth-generation fighters.²⁶ Today, the majority of Chinese fighters are fourth-generation, and the country is actively developing fifth-generation fighters.²⁷ Figure 4 illustrates China’s rapid airpower modernization over the past two decades. By comparison, the vast majority of the Joint Force’s fighters are fourth-generation aircraft with approximately five hundred fifth-generation aircraft.²⁸ While the Joint Force still possesses a marked qualitative airpower advantage, and likely will for quite

²³ Ian Rinehard, *The Chinese Military: Overview and Issues for Congress*, (Congressional Research Service, Mar 2016), 6.

²⁴ Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2018*, (2018), ii.

²⁵ Eric Heginbotham, et al., *The U.S.-China Military Scorecard*, (Rand Corporation, 2015), 76.

²⁶ Ibid.

²⁷ Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People’s Republic of China 2018*, (2018), 33.

²⁸ Dakota L. Wood, *2019 Index of U.S. Military Strength*, (Heritage Foundation, 2018).

some time, it is a much narrower advantage than in the 1990s. A comparison of current Chinese and Joint Force Anti-Ship Cruise Missile (ASCM) capabilities paints a starker picture.

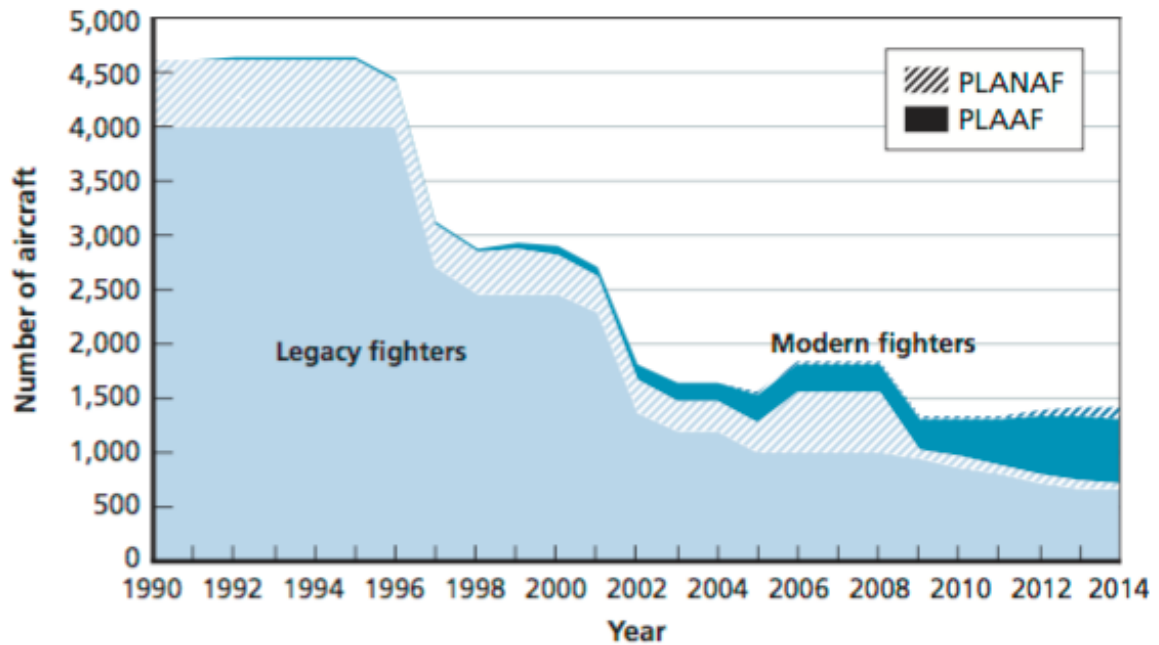


Figure 4: Chinese Airpower Modernization. Source: Michael Chase, et al. *China's Incomplete Military Transformation: Assessing the Weakness of the People's Liberation Army*, (Rand Corporation, 2015), 102.

The Joint Force is limited to the RGM-84 Harpoon with a range of sixty-seven nautical miles as its sole ASCM asset for anti-surface warfare.²⁹ The Joint Force can deliver the RGM-84 Harpoon from Destroyers, Cruisers or aircraft.³⁰ By comparison, the Chinese ASCM inventory includes the YJ-83, YJ-62, and YJ-18 with ranges of one hundred, 150 and 290 nautical miles, respectively.³¹ Additionally, unlike the Joint Force, China can deliver their ASCMs from all surface combatants, submarines, aircraft, and land-based systems.³² Consequently, in ASCM-based anti-surface conflict, China has not merely narrowed the

²⁹ Alan Cummings, "A Thousand Splendid Guns: Chinese ASCM in Competitive Control," *Naval War College Review*, 69 (Number 4 Autumn 2016), 4.

³⁰ Ibid.

³¹ Ibid.

³² Ibid.

qualitative gap, they have actually taken the lead. The true magnitude of the risk posed to the Joint Force by this waning qualitative advantage becomes apparent when one compares available force quantities.

China maintained a quantitative advantage relative to the Joint Force as it modernized. Interestingly, China does not possess an overwhelming quantitative advantage in terms of total combat power. Indeed, there are numerous areas where the Joint Force possesses a marked quantitative advantage; fifth generation fighter jets, aircraft carriers, submarines, etc. However, readiness rates and competing global requirements significantly limit the quantity of combat power which the Joint Force can bring to bear against China.

At any given time, only a fraction of the Joint Force's combat power is ready for conflict. The Army's newly established Brigade Combat Team (BCT) readiness rates rest at sixty-six percent and thirty-three percent for Active and National Guard BCTs, respectively.³³ Secretary of Defense Mattis established the standard for tactical aircraft readiness in 2018 at eighty percent.³⁴ Finally, more than half of the Maritime fleet is in maintenance in the continental United States at any given time.³⁵ Resultantly, perhaps only fifty percent of the collective combat power within the Joint Force is ready for conflict at any given time. Admittedly, in comparing the Joint Force to China, one must assume similar readiness challenges for the Chinese military. However, if one assumes that China initiates conflict, then one must also make the conservative assumption that China surged their military readiness rate prior to initiating conflict and therefore entered conflict with a higher readiness rate than that of the Joint Force. For comparative purposes then, a seventy-five

³³ Meghann Myers, "Milley: Army is pushing to get two-thirds of its brigades ready to deploy at any minute," *Army Times*, (25 Mar 2018).

³⁴ Aaron Mehta, "Mattis orders fighter jet readiness to jump to 80% - in one year," *Defense News* (9 Oct 2018).

³⁵ Wood, *2019 Index of U.S. Military Strength*.

percent Chinese readiness rate is assumed. Table I provides quantitative data for the ready Joint Force and China. Unfortunately, competing global requirements place additional quantitative limitations on the Joint Force.

Table I: Ready Combat Power

	Combat Power	Total Joint Force	Ready Joint Force (33%-80% of Total)	Total China	Ready China (75% of Total)
Land	Tanks	2,831	1,416	7000	5250
	Artillery	3,296	1,648	8000	6000
	Ballistic or Cruise Missiles	N/A	N/A	1800	1350
Maritime	Aircraft Carrier	11	3	1	1
	Large Surface Combatants	89	40	77	58
	Small Surface Combatants	23	10	101	76
	Submarines	99	40	63	47
Air	Fighters	2184	1600	1490	1118
	Bomber	139	100	530	398

Source: Data for the Joint Force obtained from Dakota L. Wood, *2019 Index of U.S. Military Strength* (Heritage Foundation, 2018). Data for the Chinese maritime elements obtained from Ronald O'Rourke, *China Naval Modernization: Implications for U.S. Navy Capabilities – Background and Issues for Congress*, (Congressional Research Service, Aug 2018). Data for the Chinese air elements obtained from Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2018*. Data for the Chinese tanks and artillery pieces obtained from Office of the Secretary of Defense, *Annual Report to Congress: Military and Security Developments Involving the People's Republic of China 2017*, 93. Data for Chinese ballistic and cruise missiles obtained from Peter Dutton, Andrew Erickson and Ryan Martinson, *China's Near Seas Combat Capabilities*, (CSMI Red Books, 2014), 33.

China represents only one potential adversary in a dynamic and rapidly changing global operational environment. The 2018 NDS identifies Russia as a second principle priority for the Department of Defense (DOD) and articulates concurrent requirements to deter Iran and North Korea, disrupt violent extremist organizations (VEOs), and consolidate gains in Iraq and Afghanistan.³⁶ One must assume these concurrent global priorities consume at least one third of the Joint Force's ready combat power. The combined result of readiness limitations and competing global requirements means that perhaps only thirty-three percent of the total Joint Force is ready and available for conflict with China. China conversely, could conceivably commit seventy-five percent of its total combat power to

³⁶ *Summary of the 2018 National Defense Strategy of the United States of America*, 4.

conflict with the Joint Force. Table II illustrates a quantitative comparison between available Joint Force and Chinese combat power.

Table II: Available Combat Power

	Combat Power	Total Joint Force	Ready Joint Force (33%-80% of Total)	Available Joint Force (33% of Total)	Available China (75% of Total)
Land	Tanks	2,831	1,416	934	5250
	Artillery	3,296	1,648	1,088	6000
	Ballistic or Cruise Missiles	N/A	N/A	N/A	1350
Maritime	Aircraft Carrier	11	3	2	1
	Large Surface Combatants	89	40	26	58
	Small Surface Combatants	23	10	7	76
	Submarines	99	40	26	47
Air	Fighters	2184	1600	1,056	1118
	Bomber	139	100	66	398

Source: Same data sources as Table I.

As a result of readiness and availability limitations, the Joint Force finds itself facing a significant quantitative disadvantage. If the Chinese military is equivalent in quality and superior in available quantity to the Joint Force, then the Joint Force faces an overall relative combat power disadvantage which it must resolve. The concept of cross-domain synergy and its associated ability to generate operational effects which are greater than the sum of their tactical parts provides an opportunity for the Joint Force to rectify the relative combat power imbalance. However, the complexity of 21st-century conflict and the now essential requirement for the Joint Force to achieve cross-domain synergy requires an unprecedented level of joint synchronization. Alarming, China developed a strategy which attacks the Joint Force critical vulnerabilities essential to achieving cross-domain synergy.

AN INDIRECT ATTACK ON THE JOINT FORCE COG

The Chinese strategy aims to indirectly defeat the Joint Force COG by attacking command and control. Over the past several decades the Joint Force leveraged technology to indirectly defeat adversary COGs during the Gulf War, Kosovo War, and War on Terror.³⁷ Indirectly defeating adversary COGs enabled the Joint Force to achieve overwhelming

³⁷ Jeffrey Engstrom, *Systems Confrontation and System Destruction Warfare: How the Chinese People's Liberation Army Seeks to Wage Modern War*, (Rand Corporation, Santa Monica, CA, 2018), 11.

operational victories without the need to destroy the enemy militaries outright (although it largely did in the Gulf War during the Iraqi Army's retrograde from Kuwait).³⁸ Applying a COG analysis to the demonstrated Joint Force method of conflict over the past several decades reveals a possible Joint Force COG and associated critical vulnerabilities. Tables III and IV provide a Joint Force COG analysis given a hypothetical Chinese invasion of Taiwan.

Table III: Joint Force COG Analysis

DES: Taiwan sovereignty reestablished and return to preexisting global / regional status quo	
1a. Strategic Objectives: <ul style="list-style-type: none"> • Effect the immediate, complete and unconditional withdrawal of all Chinese forces from Taiwan • Restore Taiwan's legitimate government • Ensure the security and stability of regional allies 	
1b. Operational Objectives: <ul style="list-style-type: none"> • Gain Air Superiority • Gain Sea Control • Conduct CFEO on Taiwan • Destroy PLA on Taiwan • Defend Taiwan 	
2a. Critical Strengths: <ul style="list-style-type: none"> • C2 HQs and Systems • World Opinion • Combat Experienced Land Forces • Ability to Task Organize • Long Range Precision Fires • Aircraft Carriers • Submarines • ISR 	2b. Critical Weaknesses: <ul style="list-style-type: none"> • Air Defense Systems • Logistical Consumption Rate • Interoperability • Available Class IX PGM • Computer Network • Numerically Inferior Joint Force

Source: Strategic objectives adapted from President Bush's *National Security Directive-54*, (11 Sep 1991), which defined US Strategic Objectives following Iraq's invasion of Kuwait. Format obtained from *NWP 5-01: Navy Planning*, (Dec 2013), C-17.

³⁸ Engstrom, *Systems Confrontation and System Destruction Warfare*, 10.

Table IV: Joint Force COG Analysis Continued

3a. Strategic Center of Gravity: US Domestic Support
3b. Operational Center of Gravity: Land Forces
<p>4. Critical Capabilities</p> <ul style="list-style-type: none"> • Ability to rapidly coordinate synchronize joint force through C2 • Ability to move airpower into the JOA to gain air superiority • Ability to protect aircraft carriers with counterforce • Employment of long range precision fires to disrupt enemy forces and isolate Taiwan with SSNs • Ability to sustain combat power with required Class IX PGM • Comprehensive ISR assets at echelon able to provide targeting data
<p>5. Critical Requirements:</p> <ul style="list-style-type: none"> • C2 Systems • Aircraft Carriers • Resupply of Class IX PGM • ISR assets
<p>6. Critical Vulnerabilities:</p> <ul style="list-style-type: none"> • C2 Systems • Aircraft Carriers • Resupply of Class IX PGM

Source: Format obtained from *NWP 5-01: Navy Planning*, (Dec 2013), C-17.

This hypothetical COG analysis reveals one potential Joint Force COG as the land forces and potential associated critical vulnerabilities as command and control systems, aircraft carriers, and resupply of Class IX PGM. China can conceivably defeat the Joint Force through a direct attack on the land forces or an indirect attack on the associated land force critical vulnerabilities. Figure 5 illustrates the difference between the two methods of attacking the Joint Force COG. An analysis of China's strategy demonstrates a clear penchant for the latter.

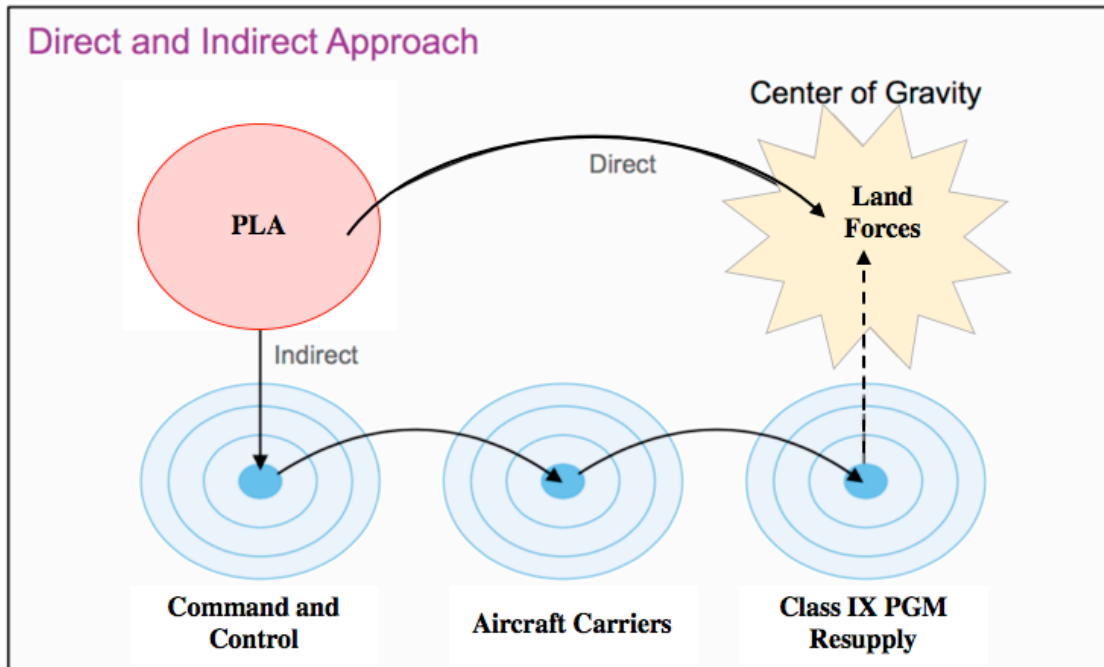


Figure 5: Methods of Attacking Joint Force COG. *Source:* Adapted from Figure IV-13 published in *Joint Publication 5-0: Joint Planning*, (16 Jun 2017), IV-33.

China developed and continues to evolve a strategy of System Destruction Warfare in response to its observation and analysis of the Joint Force. System Destruction Warfare holds that 21st-century conflict is a confrontation between two operational systems and provides the framework for an indirect COG attack.³⁹ “It [China] is creating its own understanding, whether grounded in fact or only conjecture, about the weak points of an adversary’s operational system. This determines how the PLA will direct its attacks should conflict arise, since it is these weak points—real or perceived—that will be the focus of combat efforts.”⁴⁰ It therefore becomes clear that China intends to defeat the Joint Force COG indirectly by targeting the previously identified critical vulnerabilities of C2 systems, aircraft carriers, and Class IX PGM resupply. A more detailed analysis reveals that Chinese targeting prioritizes Joint Force command and control.

³⁹ Engstrom, *Systems Confrontation and System Destruction Warfare*, 119.

⁴⁰ Ibid.

System Destruction Warfare identifies four priorities to defeat an adversary COG indirectly. First, degrade or disrupt the flow of information within the opposing force.⁴¹ Chinese doctrine makes specific reference to targeting network nodes at headquarters to isolate all lower echelon nodes.⁴² For example, attack computer servers at the operational and tactical headquarters in order to degrade the flow of information within the Joint Force which is essential to cross-domain synergy. Second, degrade or disrupt essential elements of the joint functions; command and control, information, intelligence, fires, movement and maneuver, protection and sustainment.⁴³ For example, attack an aircraft carrier in order to prevent the Joint Force from achieving air superiority and employing air-to-surface fires. Third, degrade or disrupt the operational architecture of the operational system itself.⁴⁴ For example, attack the sustainment headquarters to disrupt the synchronized flow of Class IX PGM along the lines of communication. Forth, disrupt tempo by breaking the sensor-to-shooter cycle.⁴⁵ Therefore, the number one military priority for China in conflict is to degrade or disrupt the Joint Force's ability to command and control.

As previously discussed, cross-domain synergy is imperative for the Joint Force to resolve a relative combat power imbalance and achieving cross-domain synergy in the 21st-century requires an unprecedented level of joint synchronization. China's strategy provides a framework for indirectly attacking the Joint Force COG by degrading or disrupting the ability of the Joint Force to synchronize across the ten domain interfaces and achieve cross-domain synergy. Figure 6 offers a conceptual illustration of System Destruction Warfare indirectly attacking the Joint Force COG. If the Joint Force is to achieve the cross-domain

⁴¹ Engstrom, *Systems Confrontation and System Destruction Warfare*, 16.

⁴² Ibid.

⁴³ Ibid, 17.

⁴⁴ Ibid.

⁴⁵ Ibid, 18.

synergy necessary to defeat China, then it requires a joint operating concept with sufficient granularity to enable joint synchronization in five contested domains against an adversary targeting every vulnerability along the ten domain interfaces.

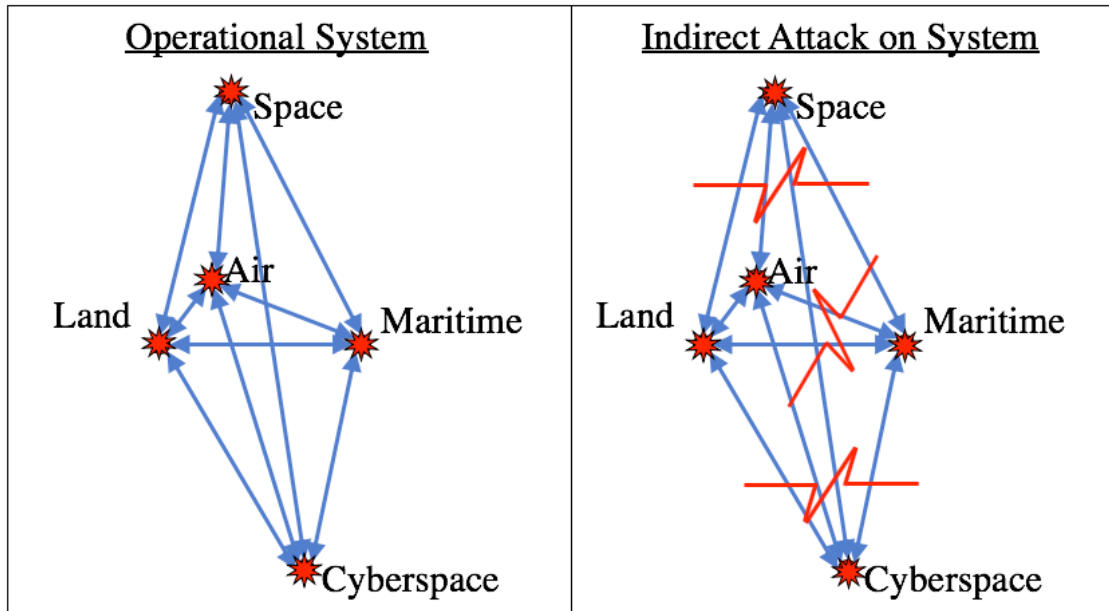


Figure 6: Conceptual illustration of Indirect Attack on Joint Force COG

CROSS-DOMAIN SYNERGY THROUGH THE JOINT FORCE COMMANDER

One could argue that the current joint operating concept is sufficient given a Joint Force Commander's (JFC) extensive authority to unify and synchronize the Joint Force. Joint Publication 1 articulates that "A JFC has the authority to organize assigned or attached forces with specification of OPCON to best accomplish the assigned mission based on his intent, the CONOPS, and consideration of Service organizations."⁴⁶ Furthermore, "The JFC will establish subordinate commands, assign responsibilities, establish or delegate appropriate command relationships, and establish coordinating instructions for the component commanders."⁴⁷ In fact, Joint Publication 1 even goes so far as to specifically note that "Nothing herein shall infringe on the authority of the Geographic Combatant

⁴⁶ *Joint Publication 1*, IV-2.

⁴⁷ *Ibid.*

Command (GCC) or subordinate JFC in the exercise of OPCON to assign missions, redirect, and direct coordination among the subordinate commanders to ensure unity of effort in accomplishment of the overall mission, or to maintain integrity of the force.”⁴⁸ The authorities provided to a JFC are, without doubt, sufficient to synchronize the Joint Force and achieve cross-domain synergy after the JFC and their associated headquarters reach FOC.

However, the Joint Force cannot rely on the JFC for joint synchronization because there is a significant time gap between the onset of conflict and the point at which a JFC, and supporting headquarters reach FOC. Indeed, maintaining a ready force is of little value if cross-domain synergy is decisive to defeating a revisionist power in conflict and the only means of achieving cross-domain synergy requires six months of development from the onset of conflict. In 2010, the Rand Corporation conducted a study of forty-five legacy Joint Task Forces (JTFs) and found several alarming, but perhaps not surprising, trends. First, the vast majority of JFCs and JTFs receive minimal warning to prepare for their operational mission; with seventy percent receiving less than five weeks of notice.⁴⁹ As a result, the majority of JFCs and their staffs commence operations prior to developing their joint operating concepts.⁵⁰ Second, and even more problematic, the staffs which support a JFC must be augmented with a variety of mission-specific expertise essential for a given operation. Indeed, “It can take up to six months to obtain all of the personnel they require to carry out planning, intelligence, logistics, communications, and other command and control functions.”⁵¹ As a result, JFCs initially lack staffs with the requisite knowledge necessary to

⁴⁸ *Joint Publication 1*, IV-5.

⁴⁹ Timothy M. Bonds, Myron Hura, and Thomas-Durell Young, *Enhancing Army Joint Force Headquarters Capabilities*, (Rand Corporation, 2010), 7.

⁵⁰ *Ibid*, 41.

⁵¹ *Ibid*.

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synchronize the Joint Force across five contested domains. Unfortunately, the Joint Force cannot afford to wait six months to achieve cross-domain synergy.

The Joint Force must be able to rapidly and decisively win at the onset of conflict. Presupposing that the Joint Force can afford months of time to establish a Joint Force Headquarters with the requisite expertise and knowledge necessary to synchronize the Joint Force and achieve cross-domain synergy is a recipe for operational defeat and strategic disaster.

CONCLUSION

The global operational environment appears to be transitioning from a post-Cold War era of unipolarity to one of bipolarity between the United States and China. Indeed, the 2018 NDS clearly asserts that “Inter-state strategic competition, not terrorism, is now the primary concern in U.S. national security.”⁵² At the same time, emerging technology is rapidly evolving the very character of conflict itself. However, despite the return of great power competition and the evolving character of conflict, the Joint Force finds itself alarmingly devoid of a joint operating concept sufficient to ensure common principles and unity of effort across the Joint Force.

The Joint Force must adopt a new joint operating concept in order to defeat China in conflict. A new joint operating concept is necessary because 21st-century conflict requires a newfound level of joint synchronization, defeating China in conflict requires cross-domain synergy, and the Chinese strategy aims to defeat the Joint Force COG indirectly by attacking command and control. One could argue that the current joint operating concept is sufficient given a JFC’s extensive authority to unify and synchronize the Joint Force. However, the Joint Force cannot rely on the JFC for joint synchronization because there is a significant

⁵² *Summary of the 2018 National Defense Strategy of the United States of America*, 1.

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time gap between the onset of conflict and the point at which a JFC and supporting headquarters reach FOC. If the Joint Force does not adopt a new, unifying joint operating concept, then it risks setting the conditions for China to eclipse the capability of the Joint Force in the 21st-century global operational environment.

RECOMMENDATIONS

1. Explore adoption of MDO's operational framework and penetrate / dis-integrate / exploit framework for the CCJO. The utility and efficiency of a common operational framework nested across all services enables cross-domain synergy.
2. Conduct Joint constructive exercises which simulate dispersed headquarters and the disruptive effects of China's strategy. Execute the complete operations process (plan, prepare, execute and assess) for multiple sequential and simultaneous operations to fully explore the challenges inherent to 21st-century revisionist power conflict. Coalesce the lessons learned and revise the joint operating concept.
3. Conduct Joint virtual exercises with dispersed headquarters and simulated opposing forces which create similar effects to those of China's strategy. Execute the complete operations process for multiple sequential and simultaneous operations to fully explore the challenges inherent to 21st-century revisionist power conflict. Coalesce the lessons learned and revise the joint operating concept.
4. Conduct Joint live exercises with dispersed headquarters and live opposing forces which create similar effects to those of China's strategy. Execute the complete operations process multiple sequential and simultaneous operations to fully explore the challenges inherent to 21st-century revisionist power conflict. Coalesce the lessons learned and revise the joint operating concept.

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